

SUMMER 1991

Geological Society  
of Minnesota

NEWS

Minnesota Geological Survey

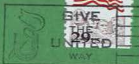
SEP 13 1991

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Geological Society of Minnesota



FIRST CLASS



EDITOR:

J. Allen Cox  
1842 26th Ave NW  
New Brighton, MN 55112

*Geological Survey of Minnesota  
3642 University Ave  
St. Paul, MN  
55104*

PLEASE FORWARD



## Geological Society of Minnesota

1711 Marshall Avenue, Saint Paul, MN 55104

### OFFICERS:

Pres. Allen Cox  
V.Pres. Dee Schmalz  
Sec'y Janet Mitchell  
Treas. Sylvia Huppler

### DIRECTORS:

Walt Blowers  
Dorothy Kuether  
Bruce Leiding  
Tom Lonsky  
David Peters

## NEWSLETTER

Summer 1991

### ANNUAL MEETING

The Annual Meeting and Fall Banquet of the Geological Society of Minnesota will take place Monday September 23, 1991 at the Old Country Buffet, 3000 White Bear Avenue, Maplewood. The restaurant is about 2 blocks south of I-694 on the east side of White Bear Avenue across from Maplewood Mall.

Dinner (all-you-can-eat buffet) begins at 5:30 PM. The business meeting and evening program begin at 7:00 PM. There will be an abbreviated open Board Meeting that includes the Treasurer's Report. The business meeting will conclude with election of new board members.

Dwight Robinson will host the evening program and present slides of his summer trip to the Rockies and the Burgess Shales in British Columbia. We would also like very much to present slides from this summer's GSM field trips and invite anyone who took slides that you would like either to present or to have presented to coordinate with Dwight (227-3394).

Reservations are not needed, and there is plenty of free parking.

### Board Election

Elections for the GSM Board will be held September 23 at the Annual Meeting. Four positions are open for a first two-year term, and there is one position for a second two-year term. Thus far, Judy Hamilton, Conrad Nelson,

Galen O'Connor, and Dwight Robinson have been nominated for a first two-year term. Dee Schmalz has been nominated to continue for a second two-year term. Additional nominations may be made from the floor.

Walt Blowers, Bruce Leiding, and Jan Mitcheil are departing, having served four years on the board. All three have contributed significant amounts of personal time and effort to the Society in these years. Walt was president in 1990 and has chaired the membership committee for three years. Bruce has been a constant source of good ideas on the board in addition to doing one of the most thankless jobs of all - taking down the State Fair exhibit. Jan deserves the Medal of Honor for all her contributions: secretary for four years, field trip organizer (with husband Warren), social activities chair for years, mother, Brownie troop leader.....

Thanks to all for a job well done!

### Membership

It is not too early to renew your membership for the 1991-91 year, which begins October 1. Dues remain unchanged this year:

- \$ 15 - individual
- \$ 20 - couple
- \$ 7 - associate
- \$ 30 - sustaining
- \$ 50 - supporting
- \$100 - guarantor
- \$ 5 - student (full time)

# GEOLOGICAL SOCIETY of MINNESOTA



## BEDROCK INFORMATION

### WANT TO LEARN MORE ABOUT GEOLOGY?

- History and the structure of the earth
- Surface features and movements
- Fossils and mineral resources
- Minnesota's place in earth history
- Human impact on geology

The GEOLOGICAL SOCIETY of MINNESOTA presents professional, illustrated lectures for amateurs from all walks of life.

Our lecturers share their enthusiasm for all aspects of geology from the "Big Bang" up to the present . . . and beyond. Lectures are free and open to the public.

- . We share a common interest in geology.
- . Expertise is strictly optional!

### WE MEET: OCTOBER - APRIL

7:30 P.M. Mondays  
University of Minnesota, Minneapolis Campus  
Physics Building

### IN ADDITION, WE OFFER:

- Thirty-three geological markers throughout Minnesota
- Extra sessions for special learning experiences
- Metro mini-tour guides of geological features
- Annual exhibit at the State Fair

### MEMBERS ENJOY:

- Guided field trips - state-wide and national
- Fall annual meeting and spring banquet
- Quarterly newsletter
- Annual roster of members
- Opportunities to meet others who share your interest

### PLEASE JOIN US!!!!

OFFICIAL ADDRESS: Geological Society of Minnesota  
1711 Marshall Avenue, St. Paul, MN 55104  
(612)644-6429

Minnesota Geological Survey

SEP 13 1991

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Period or epoch and its length	Beginning (years ago)
<b>Quaternary Period</b>	
Holocene Epoch 10 thousand years	10 thousand
Pleistocene Epoch 1 1/2 million years	2 million
<b>Cenozoic Era</b>	
<b>Tertiary Period</b>	
Pliocene Epoch 4 1/2 million years	5 million
Miocene Epoch 19 million years	24 million
Oligocene Epoch 13 million years	37 million
Eocene Epoch 12 million years	58 million
Paleocene Epoch 8 million years	66 million
<b>Mesozoic Era</b>	
Cretaceous Period 78 million years	144 million
Jurassic Period 64 million years	208 million
Triassic Period 37 million years	245 million
<b>Paleozoic Era</b>	
<b>Carboniferous Period</b>	
Permian Period 41 million years	286 million
<b>Precambrian Time</b>	
Pennsylvanian Period 54 million years	320 million
Mississippian Period 40 million years	360 million
Devonian Period 48 million years	408 million
Silurian Period 30 million years	438 million
Ordovician Period 67 million years	505 million
Cambrian Period 65 million years (?)	570 million (?)
<b>Origin of Earth</b>	
Precambrian Time Almost 4 billion years (?)	4 1/2 billion (?)

### MEMBERSHIP:

Our membership year begins on October 1.

**GEOLOGICAL  
SOCIETY of  
MINNESOTA**

Individual	\$ 15	<input type="radio"/>
Couple	\$ 20	<input type="radio"/>
Sustaining	\$ 30	<input type="radio"/>
Supporting	\$ 50	<input type="radio"/>
Guarantor	\$100	<input type="radio"/>
Student (Full time)	\$ 5	<input type="radio"/>

SEND TO: Walt Blowers  
2040 Laurel Avenue  
St. Paul, MN 55104  
(612)645-3553

Name \_\_\_\_\_ Phone \_\_\_\_\_  
Address \_\_\_\_\_ Zip Code \_\_\_\_\_

# GEOLOGICAL SOCIETY of MINNESOTA

## Program 91 / 92

- 7:30 P.M. Monday Evenings
- U of M Minneapolis Campus
- Physics Building - Except as noted

- 23 Sep 91 **Annual Meeting** - Old Country Buffet, Maplewood  
Dinner: 5:30 P.M.; Meeting/Program 7:00 P.M.

### GEOLOGY AND THE URBAN ENVIRONMENT

- 7 Oct 91 **Twin Cities: Geography and Human Settlement** (Room 166)  
Judith Martin, Ph.D., U of M Geography Department
- 21 Oct 91 **Bedrock Geology of the Twin Cities** (Room 166)  
Anthony Runkel, Ph.D., Minnesota Geological Survey
- 28 Oct 91 **LAB - Twin Cities Rocks** (Room 122 Appleby Hall)  
Richard Utke, Ph.D., Geological Society of Minnesota
- 4 Nov 91 **Glacial Geology of the Twin Cities** (Room 166)  
Howard Hobbs, Ph.D., Minnesota Geological Survey
- 18 Nov 91 **Geological Resources - Sand, Gravel, Building Stones** (Room 166)  
Ray Laapagaard, V.P., J. L. Shiely Company, Minnesota
- 2 Dec 91 **Environmental Pollutants: Sources and Varieties** (Room 166)  
Bruce Olson, Minnesota Department of Health
- 6 Jan 92 **Ground Water in an Urban Setting - Use and Misuse** (Room 166)  
E. Calvin Alexander, Ph.D., U of M Geology Department
- 13 Jan 92 **LAB - Testing Water: Methods & Results** (MN Dept of Agric Labs)  
Gary Horvath, Chemist, Lab Services, 90 West Plato Blvd, St. Paul
- 27 Jan 92 **Hydrology of Twin City River Systems & Floodplains** (Room TBA)  
Rebecca Seat, U of M Geology Department
- 10 Feb 92 **Lakes and Marshes - Urban Wetlands** (Room TBA)  
Wayne Barstad, Minnesota Department of Natural Resources
- 24 Feb 92 **Urban Soils in the Twins Cities Area** (Room TBA)  
Terence Cooper, Ph.D., U of M Soil Science Department
- 9 Mar 92 **Siting of Urban Landfills** (Room TBA)  
Scott Fox, Minnesota Pollution Control Agency
- 23 Mar 92 **Engineering Geology - Slope Stability/Roads & Bridges** (Room TBA)  
Rudy Ford, Minnesota Department of Transportation
- 6 Apr 92 **Geology in City Planning: County Atlas Program** (Room TBA)  
Kenneth Harris, Ph.D., Minnesota Geological Survey
- \*\*\*\*\*
- 27 Apr 92 **Spring Banquet: Global-Scale Climate Change** (Location TBA)  
Dean Abrahamson, Ph.D., U of M Hubert Humphrey Institute

Your dues supports the lecture series, program printing, rosters, and newsletters. In addition, our newly acquired audio-visual equipment used at lectures and banquets was provided from membership dues. Other benefits of membership include the newsletter and notices of field trips.

Please plan to renew your 1991-92 membership soon. Some early opportunities to do so in person will be the St. Cloud field trip (Sept 14), the Annual Meeting (Sept 23), and the Monday night lectures (begins Oct 7). Or if you prefer, you may mail your renewal directly to Walt Blowers, 2040 Laurel Avenue, St. Paul, MN 55104.

We need your support.

- Walt Blowers, Membership Chair.

### State Fair Booth A Success

Our exhibit at the State Fair had a new look this year, and by most accounts it was a great success, drawing lots of interest and attention. It cost the Society more money than usual, but we now have quality equipment and material (table, books, maps, rocks with keys, etc.) that can be used for several years.

Special thanks are due to the Exhibit Committee for doing an outstanding job. The committee consists of Fran Corcoran (chair), Georgia Cox, Suanne Hallberg, Judy Hamilton, Bob Handschin, Bruce Hanson, Bruce Leiding, Tom Lonsky, Jerry Roth, Warren Mitchell, Dee Schmalz, Dick Selander, and Eva Selander. The booth was set up by Ken and Suanne Hallberg and Allen and Georgia Cox. Bruce Leiding and Walt Blowers stayed late on Labor Day to take it down and store it in Walt's garage.

In addition to those who created the exhibit, we can't forget all the volunteers who staffed it. These are the ones who spent the four-hour stints in the hot Education Building greeting passers-by, answering their questions, and inviting newcomers to join GSM.

### State Fair Volunteers

Bill Armbrust	Tom Lonsky
Louis Asher	Alex Lowe
Grace Benz	Marlys Lowe
Walt Blowers (2)	Doris Luhmann
Elaine Brown	Everett Luhmann
Rita Childs	Lisa Lundberg
Marty Collier	Ellen Mallory
Bob Collins	Harold Mallory
Sue Collins	Gail Marshall
Fran Corcoran (2)	Mark Moen
Allen Cox	Conrad Nelson (2)
Georgia Cox	Glenn Nyberg
Dan Crosswell	Marian Nyberg
Denis Feigenbaum	Galen O'Connor
Warren Fieber	Kathleen Olson
Fern Belle Frost	William Paule
Henry Gangl	David Peters
Marj Gangl	Lisa Peters
Valerie Garber	Debbie Preece
Judy Hamilton	Lee Preece
Bob Handschin	Dwight Robinson
Dick Heglund	Margaret Rodina
Steve Herring	Dee Schmalz (2)
Susan Iwan	Dick Selander
Orell Jensen	Eva Selander
Pat Johnson	Alan Smith
Thom Jordan	Kay Smith
S. Joan Kain	Marion Smith
Bob Kemper	Don Swensrud
Dorothy Kuether	Paul Tolleison
Craig Lang	Ted Tonkinson
Gwyn Lang	Winnidell Wilson
Bruce Leiding	Dode Wanson

*Thank  
you!*



## Let the Lectures Begin!

The 1991-92 GSM lecture series begins October 7. The theme for this year is Urban Geology with lots of emphasis on our own Twin Cities. The program schedule is included as an insert in this newsletter. As in previous years, the lectures are held on Monday nights at 7:30 PM on the University of Minnesota campus (east bank). For the Fall Quarter (Oct 7 - Dec 2) we are very fortunate to be back in Room 166 of the Physics Building. As a reminder, the Physics Building faces on the Mall in front of Northrup Auditorium, on the right as you face Northrup. Parking at the University is plentiful: least expensive is in the north lots on 4th Street SE, north of University Avenue. Somewhat closer parking is behind Coffman Union on East River Road, under Coffman Union, and next to the University Radisson Hotel on Washington Avenue. Closest, and most expensive, parking is under Northrup Auditorium.

Mark your calendars! See you there.

### 1991 - 92 Lecture Series

#### URBAN GEOLOGY

UofM PHYSICS BLDG  
ROOM 166

Monday October 7, 1991  
7:30 PM

#### Lecture Treats Help Needed

A regular part of each lecture is the social break taken after the lecture and before the question-and-answer session. Treats such as coffee, cocoa, tea, cookies, and cake are available, and the break gives everyone a wonderful opportunity to visit with other GSMers or to chat with the lecturer. Dorothy Kuether, as Social Committee chair, coordinates this popular event, and she needs volunteers to bring treats or to help with setting up. If you can help, please sign up at the Annual Meeting or call Dorothy at 871-3446.

## Science Museum Seeks Volunteers

The Science Museum of Minnesota will be training volunteers to act as interpreters on the exhibit floor beginning in October. The four exhibit areas to be trained are the Paleontology Window, the Exhibit Gallery, Fibers/Hunters and Gatherers, and Hearth.

Volunteers in the Paleontology Window explain the work of scientists who study and prepare fossils for exhibition. They will also engage visitors in hands-on activities with fossils. In the Exhibit Gallery volunteers assist visitors with simple experiments in the physical sciences. A background in science is needed for this area. Simple or unleavened breads will be prepared by volunteers in the Hearth area of the Anthropology hall. Volunteers will then invite visitors to sample breads made of different grains from throughout the world. Volunteers in the Fibers/Hunters and Gatherers area will assist visitors with making rope and using a pump drill while sharing information on fiber use and the hunting and gathering way of life.

The museum provides training for all interpretive areas at no cost to the volunteer. Parking is provided to all volunteers during training and while they are volunteering. All prospective volunteers must attend an orientation/interview session on either October 7 or 8. Application deadline is October 4. Please call the volunteer office at 221-4703 for an application or further information.

## A Closing Comment from the Prez

I want to add my own personal "Thank You" to the exhibit committee for its outstanding job with our State Fair booth. It really looked GREAT. I owe very special thanks to Suanne Hallberg and Georgia Cox for the many hours they devoted to this project as a personal favor to me. Thank you, ladies; your artistic creativity shown brightly once again. I believe we'll see a banner year for new members due to everyone's efforts. - Allen Cox, President